AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (original) A manufacturing method of a hydroxyapatite complex including a hydroxyapatite sintered compact and a polymer-based material, comprising the step of:

a) reacting the hydroxyapatite sintered compact with a functional group of the polymer-based material, that contains at least one functional group selected from a group consisting of an isocyanate group and an alkoxysilyl group, so as to chemically bond the hydroxyapatite sintered compact and the polymer-based material.

2. (original) A manufacturing method of a hydroxyapatite complex including a hydroxyapatite sintered compact and a polymer-based material, comprising the steps of:

a) introducing at least one functional group selected from a group consisting of an isocyanate group and an alkoxysilyl group into the polymer-based material; and

b) reacting the hydroxyapatite sintered compact with the functional group of the polymer-based material so as to chemically bond the hydroxyapatite sintered compact with the polymer-based material.

3. (original) The manufacturing method of a hydroxyapatite complex as set forth in claim 2, wherein:

the step (a) is performed using a compound, that contains a reactive functional group and at least one functional group selected from a group consisting of an isocyanate group and an alkoxysilyl group, so as to react the reactive functional group with the polymer-based material.

4. (original) The manufacturing method of a hydroxyapatite complex as set forth in claim 3, wherein:

the compound is a silane coupling agent.

5. (original) The manufacturing method of a hydroxyapatite complex as set forth in claim 2, further comprising the step of:

c) introducing an active group into the polymer-based material before the step (a), wherein:

the step (a) is performed using a compound, that contains a reactive functional group and at least one functional group selected from a group consisting of an isocyanate group and an alkoxysilyl group, so as to react the reactive functional group with the active group of the polymer-based material.

6. (original) The manufacturing method of a hydroxyapatite complex as set forth in claim 5, wherein:

the compound is a silane coupling agent.

7. (original) The manufacturing method of a hydroxyapatite complex as set forth in claim 1, wherein:

the polymer-based material is a medical polymeric material.

8. (original) The manufacturing method of a hydroxyapatite complex as set forth in claim 7, wherein:

the medical polymeric material is a silk fibroin.

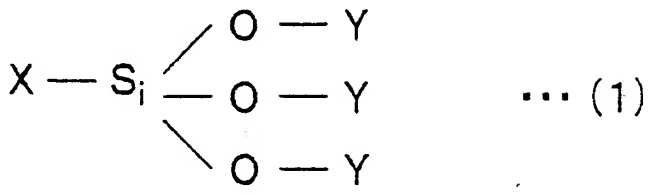
9. (original) A hydroxyapatite complex in which a hydroxyapatite sintered compact and a polymer-based material containing an isocyanate group and/or an alkoxysilyl group are chemically bonded,

wherein:

the hydroxyapatite sintered compact is chemically bonded directly to the isocyanate group and/or the alkoxysilyl group of the polymer-based material.

10. (original) A hydroxyapatite complex in which a hydroxyapatite sintered compact and a polymer-based material containing an alkoxysilyl group are chemically bonded, wherein:

the hydroxyapatite sintered compact is chemically bonded to the polymer-based material with a molecular chain expressed as:



... (1)

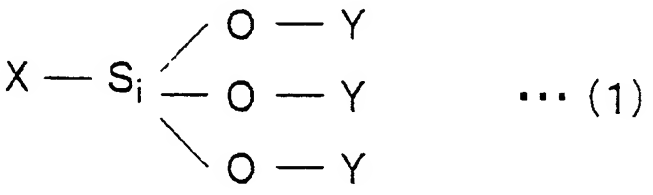
where X expresses the polymer-based material, and Y expresses the hydroxyapatite sintered compact.

11. (original) A medical material made of a hydroxyapatite complex in which a hydroxyapatite sintered compact and a polymer-based material containing an isocyanate group and/or an alkoxysilyl group are chemically bonded, wherein:

the hydroxyapatite sintered compact is chemically bonded directly to the isocyanate group and/or the alkoxysilyl group of the polymer-based material.

12. (original) A medical material made of a hydroxyapatite complex in which a hydroxyapatite sintered compact and a polymer-based material containing an alkoxysilyl group are chemically bonded, wherein:

the hydroxyapatite sintered compact is chemically bonded to the polymer-based material with a molecular chain expressed as:



... (1)

where X expresses the polymer-based material, and Y expresses the hydroxyapatite sintered compact.

13. (new) A percutaneous trans-catheter made of the medical material as set forth in claim 12.

14. (new) The percutaneous trans-catheter as set forth in claim 13, wherein:

the hydroxyapatite sintered compact is formed as a layer with a thickness ranging from 0.0001% to 100% with respect to an entire thickness of the polymer-based material.

15. (new) A percutaneous terminal made of the medical material as set forth in claim 12.

16. (new) An artificial blood vessel made of the medical material as set forth in claim 12.

17. (new) An artificial organ made of the medical material as set forth in claim 12.